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L14: Entry 22 of 26

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Apr 6, 2000

DERWENT-ACC-NO: 2000-304825

DERWENT-WEEK: 200027

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TITLE: Nematic <u>liquid crystal</u> medium for use in electro-optical displays contains dielectrically <u>positive</u> compounds, dielectrically <u>neutral</u> compounds

INVENTOR: HECKMEIER, M; REUTER, M; SCHULER, B; TARUMI, K

PRIORITY-DATA: 1999DE-1016496 (April 12, 1999), 1998DE-1039146 (August 28, 1998), 1999DE-1009238 (March 3, 1999)

#### PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 19940655 A1	April 6, 2000		039	C09K019/06
JP 2000080370 A	March 21, 2000		031	C09K019/42

INT-CL (IPC):  $\underline{\text{C07}}$   $\underline{\text{C}}$   $\underline{13/28}$ ;  $\underline{\text{C07}}$   $\underline{\text{C}}$   $\underline{25/18}$ ;  $\underline{\text{C07}}$   $\underline{\text{C}}$   $\underline{25/24}$ ;  $\underline{\text{C07}}$   $\underline{\text{C}}$   $\underline{43/184}$ ;  $\underline{\text{C07}}$   $\underline{\text{C}}$   $\underline{43/225}$ ;  $\underline{\text{C07}}$   $\underline{\text{C}}$   $\underline{69/75}$ ;  $\underline{\text{C07}}$   $\underline{\text{D}}$   $\underline{213/24}$ ;  $\underline{\text{C07}}$   $\underline{\text{D}}$   $\underline{239/26}$  ;  $\underline{\text{C09}}$   $\underline{\text{K}}$   $\underline{19/06}$ ;  $\underline{\text{C09}}$   $\underline{\text{K}}$   $\underline{19/14}$ ;  $\underline{\text{C09}}$   $\underline{\text{K}}$   $\underline{19/16}$ ;  $\underline{\text{C09}}$   $\underline{\text{K}}$   $\underline{19/18}$ ;  $\underline{\text{C09}}$   $\underline{\text{K}}$   $\underline{19/20}$ ;  $\underline{\text{C09}}$   $\underline{\text{K}}$   $\underline{19/30}$ ;  $\underline{\text{C09}}$   $\underline{\text{K}}$   $\underline{19/34}$ ;  $\underline{\text{C09}}$   $\underline{\text{K}}$   $\underline{19/42}$ ;  $\underline{\text{G02}}$   $\underline{\text{F}}$   $\underline{1/13}$ ;  $\underline{\text{G09}}$   $\underline{\text{F}}$   $\underline{9/35}$ 

ABSTRACTED-PUB-NO: DE 19940655A BASIC-ABSTRACT:

NOVELTY - Nematic <u>liquid crystal</u> (LC) medium containing dielectrically <u>positive</u> compound(s), dielectrically <u>negative</u> compound(s) and optionally dielectrically <u>neutral</u> compound(s).

DETAILED DESCRIPTION - Nematic LC medium containing (a) dielectrically positive compound(s) of formula (I), (b) dielectrically negative compound(s) (II) and optionally (c) dielectrically neutral compound(s) (III):

R1, R21, R22, R31, R32 = 1-7C alkyl or alkoxy, or 2-7C alkoxyalkyl, alkenyl or alkenyloxy;

Z11, Z12, Z13, Z21, Z22 = -CH2CH2-, -CH=CH-, -C equivalent to C-, -COO- or a single bond;

Z31-Z33 = -CH2CH2-, -CH2O-, -OCH2-, -CF2O-, -OCF2-, -COO- or a single bond, and one of these may also = -CF2CF2-;

All-Al3 = trans-1,4-cyclohexylene (Cyc), 1,3-dioxan-2,5-diyl (Diox), 1,4-phenylene (Phe), 3-fluoro-Phe (3FP) or 3,5-difluoro-Phe (35DFP);

A21, A22 = Cyc, Phe, 3FP, 2,3-difluoro-Phe (23DFP), pyridine-5,2-diyl (52PDL) or pyrimidine-5,2-diyl (PMDL);

A31-A34 = Cyc, Phe, 3FP, 5-fluoro-Phe (5FP), 52PDL, pyridine-2,5-diyl (25PDL), Diox or PMDL;

X = F, OCF2H or OCF3;

Y = F if X = F or OCF2H, or Y = H or F if X = OCF3;

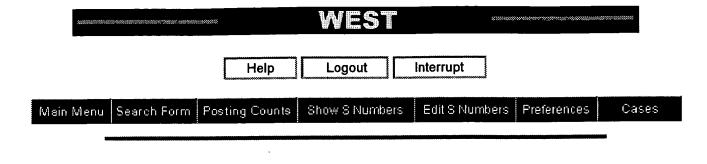
L1 = L2 = C-F, or one of these is N and the other is C-F;

n, m, 1, o, p = 0 or 1

An INDEPENDENT CLAIM is also included for electro-optical displays containing an LC medium as defined, preferably active matrix displays with 3-pole active switches.

USE - In electro-optical displays (claimed). Useful especially in active matrix displays with 3-pole active siwtches.

ADVANTAGE - Enables the production of electro-optical displays (e.g. TFT-controlled TN-AMD displays) showing good contrast with little dependence on the angle of view and a small difference between the capacities of adjacent pixels in the on and off states, resulting in minimal cross-talk between these pixels.



Your wildcard search against 2000 terms has yielded the results below

Search for additional matches among the next 2000 terms

#### Search Results -

Term	Documents
POSITIVE.DWPI,TDBD,EPAB,JPAB,USPT.	807273
POSITIVES.DWPI,TDBD,EPAB,JPAB,USPT.	5940
NEGATIVE.DWPI,TDBD,EPAB,JPAB,USPT.	667112
NEGATIVES.DWPI,TDBD,EPAB,JPAB,USPT.	8237
NEUTRAL.DWPI,TDBD,EPAB,JPAB,USPT.	233175
NEUTRALS.DWPI,TDBD,EPAB,JPAB,USPT.	1183
LIQUID.DWPI,TDBD,EPAB,JPAB,USPT.	1807504
LIQ.DWPI,TDBD,EPAB,JPAB,USPT.	309243
LIQS.DWPI,TDBD,EPAB,JPAB,USPT.	11202
LIQUIDS.DWPI,TDBD,EPAB,JPAB,USPT.	223845
CRYSTAL\$	0
CRYSTAL\$(CRYSTALLOGRAA).USPT,JPAB,EPAB,DWPI,TDBD.	pickup term
(POSITIVE SAME NEGATIVE SAME NEUTRAL SAME LIQUID CRYSTAL\$).USPT,JPAB,EPAB,DWPI,TDBD.	26

There are more results than shown above. Click here to view the entire set.

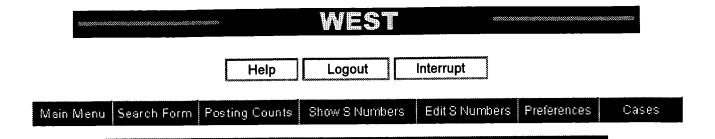
	US Patents Full-Text Database  US Pre-Grant Publication Full-Text Database		
	JPO Abstracts Database EPO Abstracts Database		
Database:	Derwent World Patents Index IBM Technical Disclosure Bulletins		
Search:	L14		Refine Search
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	Recall Text Clear		

## Search Hist ry

# DATE: Wednesday, April 24, 2002 Printable Copy Create Case

Set Name side by side		Hit Count	Set Name result set
•	SPT,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ		
<u>L14</u>	positive same negative same neutral same liquid crystal\$	26	<u>L14</u>
<u>L13</u>	L11 and 110	1	<u>L13</u>
<u>L12</u>	L11 same 110	0	<u>L12</u>
<u>L11</u>	pch-???ff or ccp-??ff	8	<u>L11</u>
<u>L10</u>	cczu-?-\$ or cdu-?-\$ or cgu-?-\$	24	<u>L10</u>
<u>L9</u>	L5 and (silicon\$ or siloxan\$)	0	<u>L9</u>
<u>L8</u>	L5 and (monomer\$ or polymer\$)	0	<u>L8</u>
<u>L7</u>	L5 and nematic	3	<u>L7</u>
<u>L6</u>	L5 and dye\$	3	<u>L6</u>
<u>L5</u>	us-4749261-\$.did.	3	<u>L5</u>
<u>L4</u>	us-4749261-\$.did.L3	0	<u>L4</u>
<u>L3</u>	L1 and liquid crystal\$	7	<u>L3</u>
<u>L2</u>	L1 same liquid crystal\$	0	<u>L2</u>
<u>L1</u>	dimethylsiloxane with surfactant\$	208	<u>L1</u>

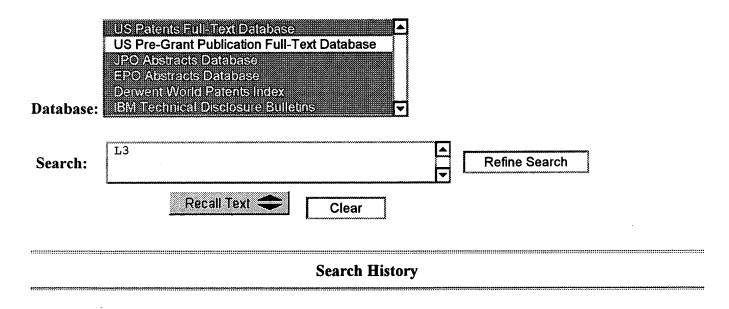
**END OF SEARCH HISTORY** 



#### Search Results -

Term	Documents
POSITIVE.DWPI,TDBD,EPAB,JPAB,USPT.	807273
POSITIVES.DWPI,TDBD,EPAB,JPAB,USPT.	5940
DIELECTRIC\$	0
DIELECTRIC.DWPI,TDBD,EPAB,JPAB,USPT.	322669
DIELECTRICA.DWPI,TDBD,EPAB,JPAB,USPT.	30
DIELECTRICABLE DWPI,TDBD,EPAB,JPAB,USPT.	1
DIELECTRICAIR.DWPI,TDBD,EPAB,JPAB,USPT.	1
DIELECTRICAL.DWPI,TDBD,EPAB,JPAB,USPT.	1244
DIELECTRICALIZATION.DWPI,TDBD,EPAB,JPAB,USPT.	1
DIELECTRICALL.DWPI,TDBD,EPAB,JPAB,USPT.	12
DIELECTRICALLT.DWPI,TDBD,EPAB,JPAB,USPT.	1
(L2 AND POSITIVE DIELECTRIC\$).USPT,JPAB,EPAB,DWPI,TDBD.	28

There are more results than shown above. Click here to view the entire set.



DATE: Wednesday, April 24, 2002 Printable Copy Create Case

Set Name side by side		Hit Count	Set Name result set
DB=US	PT,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ		
<u>L3</u>	L2 and positive dielectric\$	28	<u>L3</u>
<u>L2</u>	11 and 2,3-difluoro\$	38	<u>L2</u>
<u>L1</u>	positive and negative and neutral and liquid crystal\$	1314	<u>L1</u>

**END OF SEARCH HISTORY** 

Set Name side by side	Query	Hit Count	Set Name result set
DB = USPT, JP	AB,EPAB,DWPI,TDBD; PLUR=YES; OP=ADJ	,	
<u>L8</u>	L1 and threshold	2	<u>L8</u>
<u>L7</u>	L1 and anisotropy	2	<u>L7</u>
<u>L6</u>	L1 and tft	1	<u>L6</u>
<u>L5</u>	active matrix with three pole	4	<u>L5</u>
<u>L4</u>	L1 and nematic	1	<u>L4</u>
<u>L3</u>	L1 and active	1	<u>L3</u>
<u>L2</u>	WO-9823563-\$.did.	2	<u>L2</u>
<u>L1</u>	us-6210761-\$.did.	2	<u>L1</u>

**END OF SEARCH HISTORY**